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<212> DNA
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<223> Description of Artificial Sequence: Primer

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<211> 43
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<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

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ctgcagaatt ctaatacgac tcactatagg aagagatggc gac      43

<210> 5
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<212> DNA
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<220>
<223> Description of Artificial Sequence: Primer

<220>
<223> Description of Combined DNA/RNA Molecule: Primer

<220>
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<400> 5
gggacgaatt ctaatacgac tcactata                                28

<210> 6
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<220>
<223> Description of Artificial Sequence: Synthetic DNA Template

<220>
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<222> (20)..(59)
<223> variable nucleotides

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agatctcgcc atctcttcct atagtgagtc gtattag	97
<pre> &lt;210&gt; 7 &lt;211&gt; 33 &lt;212&gt; DNA &lt;213&gt; Artificial Sequence  &lt;220&gt; &lt;223&gt; Description of Artificial Sequence: Variant of       deoxyribozyme named 17E1 </pre>	
<400> 7 catctctttt gtcagcgact cgaaaatagtg agt	33
<pre> &lt;210&gt; 8 &lt;211&gt; 20 &lt;212&gt; DNA &lt;213&gt; Artificial Sequence  &lt;220&gt; &lt;223&gt; Description of Artificial Sequence: Synthetic Zn-DNA </pre>	
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<220> <221> modified_base <222> (8)..(10) <223> variable bases complementary to positions 2-4	
<400> 8 tnnnnagcnnn tcgaaaatagt	20
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Co-DNA sequence	
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actcactata ggaagagatg	20
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substrate	
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substrate	
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<222> (39)..(78)	
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nnnnnnnnnn nnnnnnnngt gacggttaagc ttggcac	97
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<223> Description of Artificial Sequence: Synthetic Zn-DNA

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<210> 14  
<211> 50  
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<220>  
<223> Description of Artificial Sequence: Synthetic Zn-DNA

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<210> 16  
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<223> Description of Artificial Sequence: Synthetic Zn-DNA

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<210> 17  
<211> 51  
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<223> Description of Artificial Sequence: Synthetic Zn-DNA

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<210> 18  
<211> 50

<212> DNA  
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<223> Description of Artificial Sequence: Synthetic Zn-DNA

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<210> 19  
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<223> Description of Artificial Sequence: Synthetic Zn-DNA

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<223> Description of Artificial Sequence: Synthetic Zn-DNA

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<223> Description of Artificial Sequence: Synthetic Zn-DNA

<400> 21  
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<223> Description of Artificial Sequence: Synthetic Zn-DNA

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 <223> Description of Artificial Sequence: Synthetic Zn-DNA

<400> 23  
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14

<210> 24  
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 <223> Description of Artificial Sequence: Synthetic Co-DNA

<400> 24  
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43

<210> 25  
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 <223> Description of Artificial Sequence: Synthetic Co-DNA

<400> 25  
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50

<210> 26  
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50

<210> 27  
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 <223> Description of Artificial Sequence: Synthetic Co-DNA

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<223> Description of Artificial Sequence: Synthetic Co-DNA		
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<210> 29		
<211> 45		
<212> DNA		
<213> Artificial Sequence		
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<223> Description of Artificial Sequence: Synthetic Co-DNA		
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<210> 30		
<211> 45		
<212> DNA		
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<220>		
<223> Description of Artificial Sequence: Synthetic Co-DNA		
<400> 30		
atctcttgac ccaagaaggg gtgtcaatca aatccgtcaa ccatg		45
<210> 31		
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<212> DNA		
<213> Artificial Sequence		
<220>		
<223> Description of Artificial Sequence: Synthetic Co-DNA		
<400> 31		
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<210> 32		
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<220>  
<223> Description of Artificial Sequence: Synthetic Co-DNA

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<210> 33  
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<220>  
<223> Description of Artificial Sequence: Synthetic Co-DNA

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<210> 34  
<211> 50  
<212> DNA  
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<220>  
<223> Description of Artificial Sequence: Synthetic Co-DNA

<400> 34  
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<210> 35  
<211> 50  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic Co-DNA

<400> 35  
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<210> 36  
<211> 50  
<212> DNA  
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<220>  
<223> Description of Artificial Sequence: Synthetic Co-DNA

<400> 36  
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<210> 37  
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<212> DNA  
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<220>  
<223> Description of Artificial Sequence: Synthetic Co-DNA

<400> 37  
atttcttctg aatcctcaat gtttagtggac ctagtcgttag tcgatgtgac 50

<210> 38  
<211> 50  
<212> DNA  
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<220>  
<223> Description of Artificial Sequence: Synthetic Co-DNA

<400> 38  
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<210> 39  
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<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic Co-DNA

<400> 39  
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<210> 40  
<211> 50  
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<223> Description of Artificial Sequence: Synthetic Co-DNA

<400> 40  
gtctcttttg tccgcgactc gaaatagtgt gttgaagcag ctctagtgac 50

<210> 41  
<211> 54  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic Co-DNA

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<400> 41
agccatagtt ctaccagcggttcgaaatag tgaagtgttc gtgactatcg gtaa      54

<210> 42
<211> 14
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<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic Co-DNA

<400> 42
ggtaagcttg gcac      14

<210> 43
<211> 40
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic Zn-DNA

<400> 43
ttttgtcagc gactcgaaat agtgtgttga agcagctcta      40

<210> 44
<211> 40
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic Zn-DNA

<400> 44
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<210> 45
<211> 40
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic Zn-DNA

<400> 45
ttttgtcagc gactcgaaat agtgttattgc agtagatcta      40

<210> 46
<211> 40
<212> DNA
<213> Artificial Sequence

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<220>  
<223> Description of Artificial Sequence: Synthetic Zn-DNA

<400> 46  
ttttgtcagc gactcgaaat agtgtgttac agttgcccta 40

<210> 47  
<211> 40  
<212> DNA  
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<223> Description of Artificial Sequence: Synthetic Zn-DNA

<400> 47  
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<210> 48  
<211> 40  
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<220>  
<223> Description of Artificial Sequence: Synthetic Zn-DNA

<400> 48  
ttttgtcagc gactcgaaat agttagttga accagctctc 40

<210> 49  
<211> 40  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic Zn-DNA

<400> 49  
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<210> 50  
<211> 40  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic Zn-DNA

<400> 50  
ttttgtcagc gactcgaaat agtgagggga aacagctctc 40

<210> 51  
<211> 39  
<212> DNA  
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<220>  
<223> Description of Artificial Sequence: Synthetic Zn-DNA

<400> 51  
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<210> 52  
<211> 40  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic Zn-DNA

<400> 52  
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<210> 53  
<211> 40  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic Zn-DNA

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<211> 40  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic Zn-DNA

<400> 54  
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<210> 55  
<211> 40  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Synthetic Zn-DNA

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<210> 56
<211> 40
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic Zn-DNA

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ttttgtcagc gactcgaaat agtgcgtaga accagctctc 40

<210> 57
<211> 40
<212> DNA
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<220>
<223> Description of Artificial Sequence: Synthetic Zn-DNA

<400> 57
ttttgtcagc gacacgaaat agtgccgtgt atctgccctc 40

<210> 58
<211> 40
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic Zn-DNA

<400> 58
ttttgtcagc gacacgaaat agtgtgatgt agtagctctc 40

<210> 59
<211> 38
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<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic Zn-DNA

<400> 59
ttttgtcagc gacacgaaat agtgtgacga atcatctc 38

<210> 60
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<212> DNA
<213> Artificial Sequence

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<220>  
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<210> 61  
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<212> DNA  
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<223> Description of Artificial Sequence: Synthetic Zn-DNA

<400> 61  
ttttgtcagc gacacgaaat agtgtgttga agcacgtctc 40

<210> 62  
<211> 40  
<212> DNA  
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<220>  
<223> Description of Artificial Sequence: Synthetic Zn-DNA

<400> 62  
ttttgtcagc gactcgaaat agtttgttga agcagctctc 40

<210> 63  
<211> 40  
<212> DNA  
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ttttgtcagc gactcgaaat agtgttattac agcagctctc 40

<210> 64  
<211> 40  
<212> DNA  
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<220>  
<223> Description of Artificial Sequence: Synthetic Zn-DNA

<400> 64  
ttttgtcagc gactcgaaat agtgtgttga aacagctatc 40

<210> 65  
<211> 40

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<212> DNA
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<223> Description of Artificial Sequence: Synthetic Zn-DNA

<400> 65
tttgtcatgc tactcgtaat tgtgtctcg a g c a g c t c t c          40

<210> 66
<211> 40
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic Zn-DNA

<400> 66
g t c a g t c a g g t a c t c g a a a a a t a g t g t t c a a g c c g c t g t c          40

<210> 67
<211> 40
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic Zn-DNA

<400> 67
t t t t g c a g c g a t c g a a a a g t t g t t g a g g c g g c t a t c          40

<210> 68
<211> 40
<212> DNA
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<220>
<223> Description of Artificial Sequence: Synthetic Zn-DNA

<400> 68
t t c t c t c a g c g a t c a a a a a g t t g t t g a a g c c c t c t c          40

<210> 69
<211> 40
<212> DNA
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<220>
<223> Description of Artificial Sequence: Synthetic Zn-DNA

<400> 69
t a t t g t c a g t g a c c c a a a a a g t a t g t t g a a g c a g c t c t g          40

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<210> 70  
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<210> 71  
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 substrate

<220>  
 <223> Description of Combined DNA/RNA Molecule: Synthetic chimeric  
 substrate

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<400> 71  
 tcactatagg aagag 15

<210> 72  
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 substrate

<220>  
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 substrate

<400> 72  
 ctcttcagcg atccggaacg gcacccatgt tagtga 36

<210> 73  
 <211> 19  
 <212> DNA  
 <213> Artificial Sequence

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<220>
<223> Description of Artificial Sequence: Synthetic chimeric
      substrate

<220>
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      substrate

<220>
<221> modified_base
<222> (8)
<223> ribonucleotide base

<400> 73
tcactataag aagagatgg                                19

<210> 74
<211> 37
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic chimeric
      substrate

<220>
<223> Description of Combined DNA/RNA Molecule: Synthetic chimeric
      substrate

<400> 74
acacatctct gaagtagcgc cgccgtatacg tgacgct          37

<210> 75
<211> 17
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic chimeric
      substrate

<220>
<223> Description of Combined DNA/RNA Molecule: Synthetic chimeric
      substrate

<400> 75
ggagagagagau gggugcgt                                17

<210> 76
<211> 31
<212> DNA
<213> Artificial Sequence

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<220>
<223> Description of Artificial Sequence: Synthetic chimeric
      substrate

<220>
<223> Description of Combined DNA/RNA Molecule: Synthetic chimeric
      substrate

<400> 76
      cgcacccagg ctagctacaa cgactcttc c          31

<210> 77
<211> 17
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic chimeric
      substrate

<220>
<223> Description of Combined DNA/RNA Molecule: Synthetic chimeric
      substrate

<400> 77
      aaguaacuag agaugga                         17

<210> 78
<211> 29
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic chimeric
      substrate

<220>
<223> Description of Combined DNA/RNA Molecule: Synthetic chimeric
      substrate

<400> 78
      cgcacccctcc gagccggacg aagttaactt          29

<210> 79
<211> 19
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic chimeric
      substrate

<220>
<223> Description of Combined DNA/RNA Molecule: Synthetic chimeric

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substrate

<220>
<221> modified_base
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<223> ribonucleotide base

<400> 79
ctcactatacg aaagagatg 19

<210> 80
<211> 41
<212> DNA
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<220>
<223> Description of Artificial Sequence: Synthetic chimeric
      substrate

<220>
<223> Description of Combined DNA/RNA Molecule: Synthetic chimeric
      substrate

<400> 80
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<210> 81
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<212> DNA
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<220>
<223> Description of Artificial Sequence: Synthetic chimeric
      substrate

<220>
<223> Description of Combined DNA/RNA Molecule: Synthetic chimeric
      substrate

<220>
<221> modified_base
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<223> ribonucleotide base

<400> 81
actcactata ggaagagatg 20

<210> 82
<211> 33
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic chimeric

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substrate

<220>
<223> Description of Combined DNA/RNA Molecule: Synthetic chimeric
      substrate

<400> 82
      catctttctt ccgagccggc cgaaatagtg agt          33

<210> 83
<211> 107
<212> DNA
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<220>
<223> Description of Combined DNA/RNA Molecule: Synthetic chimeric
      oligonucleotide

<220>
<223> Description of Artificial Sequence: Predicted
      secondary structure of the G3 deoxyribozyme

<220>
<221> modified_base
<222> (28)
<223> ribonucleotide base

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<222> (67)
<223> variable nucleotide

<220>
<221> modified_base
<222> (69)..(74)
<223> variable nucleotide

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<222> (80)..(82)
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<222> (85)..(89)
<223> variable nucleotide

<400> 83
      gggacgaatt ctaatacgac tcactatagg aagagatggc gacaactttt tacccaaagaa 60
      ggggtngnn nnnnngctacn nnatnnnnnt gacggttagct tggcacc          107

<210> 84
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<220>
<223> Description of Artificial Sequence: Synthetic Co-DNA

<400> 84
cactatagga agagatggcg acatctcttg acccaagaag gggtg 45

<210> 85
<211> 44
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Combined DNA/RNA Molecule: Synthetic chimeric
      substrate

<220>
<223> Description of Artificial Sequence: Synthetic
      chimeric oligonucleotide

<220>
<221> modified_base
<222> (22)
<223> ribonucleotide base

<400> 85
tgtcaactcg tgactcacta taggaagaga tgtgtcaact cgtg 44

<210> 86
<211> 12
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Primer

<220>
<223> see specification as filed for detailed description of
      preferred embodiments

<400> 86
cacgagttga ca 12

<210> 87
<211> 33
<212> DNA
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
      oligonucleotide 17E-C

<400> 87
catctcttcc ccgagccggt cgaaatagtg agt 33

```

<210> 88  
<211> 12  
<212> DNA  
<213> Artificial Sequence

<220>  
<223> Description of Artificial Sequence: Primer

<220>  
<223> see specification as filed for detailed description of  
preferred embodiments

<400> 88  
cacgagttga ca